

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re DIVISIONAL Application of:	)	Group Art Unit: 2815
Setsuo NAKAJIMA et al.	)	Examiner: E. Ortiz
Based on Serial No. 09/149,289	)	
Filed: September 9, 1998	)	
For: PLASMA PROCESSING METHOD	)	
AND PHOTOELECTRIC	)	
CONVERSION DEVICE	)	

**INFORMATION DISCLOSURE STATEMENT**

Honorable Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. 1.56 and 37 C.F.R. 1.97-1.99, Applicant submits herewith a Form PTO-1449 listing references known to Applicant and requests that these references be made of record in the above identified application.

Copies of U.S. patents and U.S. publications are not enclosed in accordance with the Notice published in the Official Gazette on August 5, 2003 entitled *Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications filed after June 30, 2003*, which waives the requirement under 37 CFR 1.98(a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. publication.

U.S. Patent No. 4,873,201 and EPO 0 320 089 are in the family of JP 01-171284.

U.S. Patent No. 5,248,345 and EPO 0 482 511 are in the family of JP 04-152679.

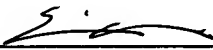
JP 56-154172 and JP 62-257771 were previously cited by the Japanese Patent Office against a counterpart Japanese application on August 7, 2003. The Japanese Patent Office alleged that these references teach a terminal provided at a rear side of a

substrate and the electrical connection to the terminal is made through a photovoltaic conversion semiconductor layer, a conductive layer and the substrate.

Utility Model Laid-Open No. 56-154172 teaches a solar cell. The reference numerals of the drawings in this reference are 1: conductive substrate, 2: conductor, 3: insulator, 4: semiconductor layer, 5: Schottky-barrier contact metal layer, and 6: electrode layer.

The references listed on the attached Form PTO 1449 were cited in parent application Serial No. 09/149,289 and predecessor Application Serial Nos. 08/554,241 and 08/118,672 and copies of the references can be found in those applications.

Respectfully submitted,

  
\_\_\_\_\_  
Eric J. Robinson  
Reg. No. 38,285

Robinson Intellectual Property Law Office, P.C.  
PMB 955  
21010 Southbank Street  
Potomac Falls, Virginia 20165  
(571) 434-6789

Please type a plus sign (+) inside this box → [+]

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>			
				Application Number		Based on 09/149,289	
				Filing Date		September 9, 1998	
				First Named Inventor		Setsuo NAKAJIMA, et al.	
				Group Art Unit		2814	
Examiner Name		Douglas Wille					
Sheet	1	of	2	Attorney Docket Number		0756-7298	

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
		4,601,260		Ovshinsky	07/22/86	
		4,582,720		Yamazaki	04/15/86	
		4,400,409		Izu et al.	08/23/88	
		4,410,558		Izu et al.	10/18/88	
		4,922,376		Pommer et al.	05/01/90	
		5,293,067		Thompson et al.	03/08/94	
		5,306,925		Abe et al.	04/26/94	
		5,296,043		Kawakami et al.	03/22/94	
		4,965,655		Grimmer et al.	10/23/90	
		4,754,544		Hanak	07/05/88	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>4</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
		JP	56-071931			06/81		
		JP	55-013939			01/80		
		JP	43-006449			06/92		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>	
		Technical Digest of the International PVSEC-3, Tokyo, Japan 1987, "A Monolithic Series-Connected a Si-:H Solar Cell on an Organic Polymer Film," pp. 391-394, K. Nakatani, K. Suzuki, H. Okaniwa.		
		SHARP TECHNICAL REPORT, Vol. 33, pp. 121-124, "Thickness Measurement and Control of Amorphous Silicon Thin Films," Toshihiko HIROBE et al.		
		18 <sup>th</sup> IEEE PVSC (1985) pp. 1523-1528, "Mass Production Technology in a Roll-to-Roll Amorphous Silicon Solar Cell Process," H. Horimoto et al.		
		Technical Digest PVSEC-1 pp. 577-582, "Roll-to-Roll Mass Production Process for a Si-Solar Cell Fabrication," Stanford R. Ovshinsky.		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → [+]

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	
				Based on 09/149,289	
				Filing Date	
				September 9, 1998	
				First Named Inventor	
		Setsuo NAKAJIMA, et al.			
Group Art Unit		2814			
Examiner Name		Douglas Wille			
Attorney Docket Number		0756-7298			
Sheet	2	of	2		

U.S. PATENT DOCUMENTS						
Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
		5,259,891		Matsuyama et al.	11/09/93	
		2,897,098		H. J. Homer et al.	07/28/59	
		3,365,330		R. L. Hough	01/23/68	
		4,383,130		Uroshevich	05/10/83	
		5,821,597		Nakajima et al.	10/13/98	
		4,419,381		Yamazaki	12/06/83	
		4,677,738		Izu et al.	07/07/87	
		4,873,201		Grimmer et al.	10/10/89	
		5,248,345		Sichanugrist et al.	09/28/93	

FOREIGN PATENT DOCUMENTS								
Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>4</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
		JP	60-123073			07/01/85		Full
		JP	59-125849			08/24/84		Full
		JP	2-092949			07/24/90		Full
		JP	56-081923			07/04/81		Abst.
		JP	57-043413			03/11/82		Abst.
		JP	59-021660			02/09/84		
		JP	63-169720			07/13/88		Abst.
		JP	60-030124			02/15/85		Abst.
		JP	60-111415			06/17/85		Abst.
		EP	0 320 089			06/14/89		Full
		EP	0 482 511			04/29/92		Full
		JP	01-171284			07/06/89		Abst.
		JP	04-152679			05/26/92		Abst.
		JP	59-168681			09/22/84		Abst.
		JP	56-154172			01/01/81		Concise Statmt
		JP	62-257771			11/10/87		Abst.

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.